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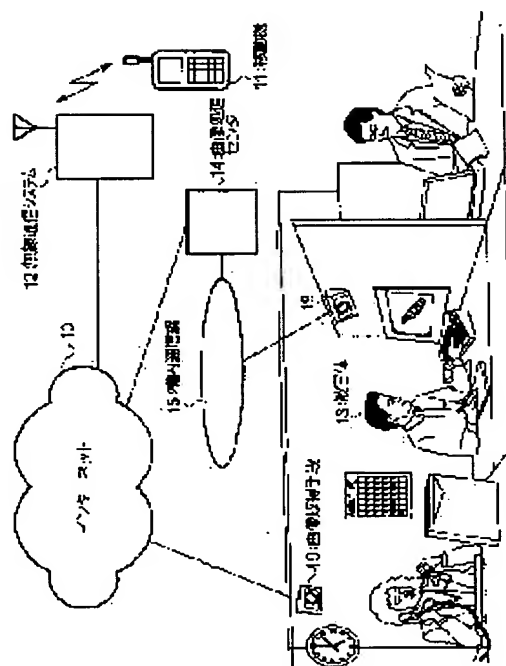
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(54) SCENE SUPERVISORY SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a scene supervisory system that can provide a displayable scene image to a mobile unit in a proper mode at all times regardless of the type of the mobile unit.

SOLUTION: An image processing center 14 receives and stores an image acquired by an image acquisition means 19 via a private communication network 15 or the Internet 10 and applies the conversion processing to the image so as to have a depth of colors, the size and the direction of the image corresponding to the type of the mobile unit 11. The image processing center 14 opens the image to public via the Internet 10 when sensing a change in the scene on the basis of the images sequentially stored and receiving a request from the mobile unit.



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CLAIMS

[Claim(s)]

[Claim 1] a place -- with the image information are recording section which accumulates the image information generated from the image information obtained by photoing a view, or this image information An image transformation means to perform transform processing beforehand defined corresponding to the migration machine concerned to the image information opened to a migration machine among the image information accumulated in said image information are recording section, the place characterized by providing the image public presentation means which exhibits the image information concerned by storing the image information to which transform processing was performed from said migration machine by said image transformation means to the accessible storage means through the network -- a view -- monitoring system.

[Claim 2] the place according to claim 1 characterized by said transform processing including transform processing of the depth of a color, transform processing of the size of an image, or transform processing of the sense of an image -- a view -- monitoring system.

[Claim 3] a place -- the place according to claim 1 or 2 characterized by providing an image acquisition means to photo a view and to acquire image information -- a view -- monitoring system.

[Claim 4] a place given in any 1 claim of claims 1-3 characterized by said image public presentation means possessing a means to create an electronic mail including the link information for accessing the image information which is a open object, and a means to transmit said electronic mail to the migration machine which is the offer place of said image information -- a view -- monitoring system.

[Claim 5] the place from the image information by which sequential are recording is carried out at said image-information are-recording section -- the place where the image-information count section which detects change of a view provided, and said image public-presentation means was detected by said image-information count section from said migration machine to the accessible storage means through the network -- a place given in any 1 claim of claims 1-4 characterized by to store the image information which shows change of a view -- a view -- monitoring system.

[Claim 6] said place -- the processing for detecting change of a view with the process in which background-image information is searched for from two or more image information accumulated in said image information are recording section Change of the characteristic quantity exceeding a predetermined threshold is between the image information newly accumulated in said image information are recording section, and said background image. and the case where the characteristic quantity after change is maintained by consecutive image information after the change time -- said place -- the place according to claim 5 characterized by including the process in which it detects that there was change of a view -- a view -- monitoring system.

[Claim 7] When change of a view is detected, while generating the image information of the expansion image corresponding to 1 or two or more locations which the change has produced, transform processing is performed with said conversion means to the image information of an expansion image. said image information count section -- said place -- the place according to claim 5 or 6 characterized by said image public presentation means storing the image information of the expansion image after said transform processing from said migration machine to an accessible storage means through a network -- a view -- monitoring system.

[Claim 8] a place given in any 1 claim of claims 5-7 characterized by for said image-information count section to perform transform processing with said conversion means to the image information of a graph while generating the image information of the graph which plotted the circumstances of change of said characteristic quantity, and for said image public-presentation means to store the image information of the graph after said transform processing from said migration machine to an accessible storage means through a network -- a view

-- monitoring system.

[Claim 9] said image public presentation means -- said place -- the case where change of a view is detected -- said migration machine to a network -- minding -- an accessible storage means -- receiving -- the place of other locations -- a place given in any 1 claim of claims 5-8 characterized by providing a means to store the image information of a view -- a view -- monitoring system.

[Claim 10] a place given in any 1 claim of claims 1-9 characterized by exhibiting said image public presentation means by storing in an accessible storage means a document including the link information to the image information which is a open object through a network from said migration machine -- a view -- monitoring system.

[Claim 11] the place according to claim 10 characterized by providing the means which updates although the elapsed time from open time of day is less than predetermined time among the image information which checked the open time of day of the exhibited image information or the document for every fixed time amount, and was stored in said storage means, or a document -- a view -- monitoring system.

[Claim 12] the place according to claim 10 or 11 characterized by providing the means which eliminates although the elapsed time from open time of day is over predetermined time among the image information which checked the open time of day of the exhibited image information or the document for every fixed time amount, and was stored in said storage means, or a document -- a view -- monitoring system.

[Claim 13] a place given in any 1 claim of claims 1-12 characterized by exhibiting said image for the migration machine concerned when there is a demand from a migration machine -- a view -- monitoring system.

[Claim 14] a place given in any 1 claim of claims 1-13 characterized by providing a means to restrict access to the exhibited image information or the document for every accessing agency -- a view -- monitoring system.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] a place [in / in this invention / a remote place] -- the place which offers the image which supervises a view and is obtained by the monitor to a migration machine -- a view -- it is related with monitoring system.

[0002]

[Description of the Prior Art] recent years and the Internet -- minding -- the place of every place -- the live camera system which exhibits a view has spread widely. and the spread of such systems -- terminal units, such as a personal computer, and a set top box, a video game machine or car navigation equipment, -- using -- the place of every place -- the situation that a view can be grasped perfectly is being born.

[0003]

[Problem(s) to be Solved by the Invention] by the way, the place of a desired location -- it will become very convenient if a view can be supervised with migration machines, such as a cellular-phone terminal. However, the depth of the color to which the magnitude and the aspect ratio of the display screen changed with the classes, or the migration machine fitted the display differs. For this reason, when the image which it is as a result of a monitor was transmitted to a migration machine, there was a problem that suitable image display might not be performed depending on the class of that migration machine.

[0004] this invention is made in view of the situation explained above -- having -- the class of migration machine -- not depending -- the place which can be displayed in a suitable mode -- the place which can offer the image information of a view -- a view -- it aims at offering monitoring system.

[0005]

[Means for Solving the Problem] this invention -- a place -- with the image information are recording section which accumulates the image information generated from the image information obtained by photoing a view, or this image information An image transformation means to perform transform processing beforehand defined corresponding to the migration machine concerned to the image information opened to a migration machine among the image information accumulated in said image information are recording section, the place characterized by providing the image public presentation means which exhibits the image information concerned by storing the image information to which transform processing was performed from said migration machine by said image transformation means to the accessible storage means through the network -- a view -- monitoring system is offered. according to this system -- the class of migration machine -- not depending -- the place which can be displayed in a suitable mode -- the image information of a view can be offered. In this system, transform processing includes transform processing of the depth of a color, transform processing of the size of an image, or transform processing of the sense of an image. this system -- a place -- an image acquisition means to photo a view and to acquire image information may be included. Moreover, a means to create the electronic mail which includes the link information for accessing the image information which is a open object in an image public presentation means, and a means to transmit said electronic mail to the migration machine which is the offer place of said image information may be established. The user of a migration machine who received the electronic mail by doing in this way can perform access to image information immediately. moreover, the place from the image information by which sequential are recording is carried out in this system at the image information are recording section -- the place where the image information count section which detects change of a view was prepared, and the image public presentation means was detected by said image information count section from said migration machine to the accessible storage means through the network --

you may make it store the image information which shows change of a view thus, the thing to do -- a place -- when there is change of a view, the user of a migration machine can be provided with the image information which shows the change. a place -- the processing for detecting change of a view with the process in which background-image information is searched for from two or more image information accumulated for example, in the image information are recording section the case where change of the characteristic quantity exceeding a predetermined threshold is between the image information newly accumulated in the image information are recording section, and said background image, and the characteristic quantity after change is maintained by consecutive image information after the change time -- a place -- the process in which it detects that there was change of a view is included. this system -- setting -- the image-information count section -- a place -- when change of a view is detected, while generating the image information of the expansion image corresponding to 1 or two or more locations which the change has produced, transform processing performs with a conversion means to the image information of an expansion image, and it may make an image public-presentation means store the image information of the expansion image after transform processing from a migration machine to an accessible storage means through a network according to this system -- a place -- the detail of change of a view can be opened to the user of a migration machine. Moreover, the image information count section performs transform processing with said conversion means to the image information of a graph while generating the image information of the graph which plotted the circumstances of change of characteristic quantity, and you may make it an image public presentation means store the image information of the graph after transform processing from a migration machine to an accessible storage means through a network. moreover, an image public presentation means -- receiving -- a place -- the case where change of a view is detected -- a migration machine to a network -- minding -- an accessible storage means -- receiving -- the place of other locations -- a means to store the image information of a view may be established. Moreover, you may make it store an image public presentation means in an accessible storage means through a network from a migration machine with a document including the link information to the image information which is a open object. Moreover, the open time of day of the exhibited image information or the document may be checked for every fixed time amount, and the means which updates although the elapsed time from open time of day is less than predetermined time among the image information stored in said storage means or a document may be established. By doing in this way, the user of a migration machine can always be provided with the newest image information and the newest document. Furthermore, the open time of day of the exhibited image information or the document may be checked for every fixed time amount, and the means which eliminates although the elapsed time from open time of day is over predetermined time among the image information stored in said storage means or a document may be established. By doing in this way, the image information and the document which became old can be eliminated and it can ** to reservation of fixed security, and a deployment of a resource. Moreover, in this system, when there is a demand from a migration machine, it may be made to exhibit the image for the migration machine concerned. By doing in this way, image information according to a demand of a user can be exhibited in the time of day of arbitration. Furthermore, in order to secure powerful security, a means to restrict access to the exhibited image information or the document for every accessing agency may be established.

[0006]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing.

[0007] A. the place whose block diagram 1 of the 1st operation gestalt (1) operation gestalt is the 1st operation gestalt of this invention -- a view -- it is drawing showing the overview of monitoring system. this place -- a view -- in monitoring system, the image-processing center 14 performs the communication link with the migration machine 11 through a radio communications system 12.

[0008] The image acquisition means 19 is connected to a local area network 15 or the Internet 10. This image acquisition means 19 picturizes the image of photographic subject 13 grade, and sends that image information to the image-processing center 14 via a local area network 15 or the Internet 10. The image-processing center 14 stores the image information sent by doing in this way. Moreover, the image-processing center 14 transmits the image information which carried out in this way, received and was stored to a user's migration machine 11 registered beforehand through the Internet 10 and the radio link established by the radio communications system 12. There are the following two in the opportunity of a transfer of this image information.

a. a place -- b[when change of a view is detected]. -- the case where there is an image demand from a user's migration machine 11 beforehand registered into the image-processing center 14 -- [0009] the place where

drawing 2 explained the outline above -- a view -- it is the block diagram showing the concrete configuration of monitoring system. The mobil radio communication network 310 consists of migration machines 11, such as the communication link repeating installation 314 which has a gateway function for isolating and relaying a radio communication equipment 312, and the radio network 313 and the Internet 10 for establishing a radio link besides the radio network 313 known for the name of a PDC (Personal Digital Cellular) method wireless packet exchange network, an IMT-2000 network, etc., and a cellular-phone terminal, a personal digital assistant.

[0010] The image-processing center 340 has image public presentation server equipment 330, a local area network 345, the communication link repeating installation 344, image acquisition server equipment 329, image collection server equipment 346, and image count server equipment 347.

[0011] Here, image public presentation server equipment 330 is equipment which exhibits the image and document which were generated in the image-processing center 340 for a migration machine, and is connected to the Internet 10. Through the radio communication equipment 312 mentioned above, the radio network 313, the communication link repeating installation 314, and the Internet 10, the migration machine 11 can access this image public presentation server equipment 330, and refer to the image and document which are exhibited appropriately for it. The communication link repeating installation 344 has the gateway function for isolating and relaying a local area network 345 and the Internet 10.

[0012] image acquisition server equipment 329 -- the place of the external world -- it has a means (image acquisition means 19 in drawing 1) to picturize a view and to acquire image information. Although it connected with the local area network 345, there are some which were connected to others and the Internet 10 in this image acquisition server equipment 329.

[0013] Image collection server equipment 346 is equipment which collects image information through a local area network 345 from the image acquisition server equipment 329 connected to the image acquisition server equipment 329 or the Internet 10 connected to the local area network 345. Image storage server equipment 348 is equipment which accumulates the image information collected by image collection server equipment 346.

[0014] Image count server equipment 347 opens the newest image information accumulated in image storage server equipment 348 to a user's migration machine 11 beforehand registered into the image-processing center 14, when there is an image demand from a user's migration machine 11 beforehand registered into the image-processing center 14. moreover, the case where image storage server equipment 346 received image count server equipment 347, and it accumulates new image information -- setting -- a place -- the time of change of a view being accepted -- the spot -- the image information which shows change of a view is opened to a user's migration machine 11 beforehand registered into the image-processing center 14. About the concrete approach of these public presentation, it mentions later.

[0015] Drawing 3 is the block diagram showing the configuration of image collection server equipment 346. As shown in drawing 3 , image collection server equipment 346 has the information control section 51 and the communications departments 52 and 68. Here, the information control section 51 is equipment which performs control for collecting the image information obtained by the image acquisition server equipment 329 connected to the image acquisition server equipment 329 or the Internet 10 connected to the local area network 345. The communications department 52 communicates with a local area network 345 for collection of an image. The communications department 68 performs a communication link with image storage server equipment 348, in order to record the collected images.

[0016] Drawing 4 is the block diagram showing the configuration of image count server equipment 347. As shown in drawing 4 , image count server equipment 347 has the communications departments 52 and 68, the image information count section 57, the electronic mail transmitting section 55, the electronic mail receive section 56, and the information control section 51. Here, the communications department 52 is equipment for performing the communication link which went via the local area network. Moreover, the communications departments 68 are image storage server equipment and equipment which performs the communication link for transmission and reception of image information. the place from image information where the image information count section 57 was accumulated in image storage server equipment 348 -- when transmitting the function to detect change of a view, and the image information accumulated in image storage server equipment 348 to the migration machine 11, it has the function to change image information so that image display corresponding to the class of migration machine 11 can be performed. the electronic mail transmitting section 55 -- the image information count section 57 -- a place -- when change of a view is detected, it is equipment for notifying the change to the migration machine 11 registered beforehand. The electronic mail receive section 56 is equipment which receives the image demand sent from the migration machine 11. The information control section 51 is

equipment with which control of the flow of the image information explained above controls each part.

[0017] Drawing 5 is the block diagram showing the configuration of image storage server equipment 348. As shown in drawing 5, image storage server equipment 348 has the communications department 82, the image information are recording section 58, and the information control section 51. Here, the communications department 82 is equipment for performing transmission and reception of image collection server equipment 346, image count server equipment 347, and an image. Each communications department 68 of this communications department 82, image collection server equipment 346, and image count server equipment 347 may connect with general-purpose communication networks, such as SAN (Storage Area Network) and LAN (Local Area Network), although the metallic cable, the optical cable, etc. connect respectively. The image information are recording section 58 has the storage device, and accumulates image information in this storage device.

[0018] Drawing 6 is the block diagram showing the configuration of image acquisition server equipment 329. As shown in drawing 6, image acquisition server equipment 329 has the image acquisition means 59, the communications department 52, and the information control section 51. here -- the image acquisition means 59 -- the place of the external world -- it is equipment which picturizes a view and outputs image information. The communications department 52 is equipment which transmits this image information through a local area network 345 or the Internet 10. The information control section 51 is equipment which controls control of the flow of this image information, and each part in image acquisition server equipment 329.

[0019] Drawing 7 is the block diagram showing the configuration of image public presentation server equipment 330. As shown in drawing 7, image public presentation server equipment 330 has the image information are recording section 58, the communications department 52, and the information control section 51. Here, the image information are recording section 58 is equipment which accumulates a open image and a open document. The open image and the open document were drawn up suitable for the image information are recording section 58, or are memorized by the directory subordinate created appropriately. These open images and open documents are referred to through a mobil radio communication network.

[0020] As a storage device carried in the image information are recording section 58 of image public presentation server equipment 330, or the image information are recording section 58 of image storage server equipment 348 mentioned above, there are magnetic storage like a hard disk, optical magnetic storage, a semiconductor memory, etc.

[0021] The communications department 52 transmits the open image and the open document which were accumulated in the image information are recording section 58 to the migration machine 11 through the Internet 10 and a mobil radio communication network 310 while receiving the image information which should be accumulated in the image information are recording section 58 through the Internet 10.

[0022] The information control section 51 performs which information is opened to an Internet 10 and mobil radio communication network 310 side, and access restriction while performing the control of the flow of image information and the control of processing in image public presentation server equipment 330. This access restriction may be performed per directory and may be performed per file. The following approach can be considered as the approach of the access restriction when not wishing public presentation to the Internet 10 whole of an image.

a. the case where the user ID which performs a user ID demand towards a mobil radio communication network 310 from the approach c. image public presentation server equipment 330 limited only to access from the communication link repeating installation 314 of the approach b. mobil radio communication network 310 which limits an IP address, a network address, a host name, a domain name, etc. of the user who accepts access, and comes on the contrary from the migration machine 11 belongs to an authorized user -- as long as -- how

[0023] to permit reference of image information (2) Drawing 8 of an operation gestalt of operation - drawing 10 are flow charts which show actuation of an image-processing center. Moreover, drawing 11 and drawing 12 are drawings showing the example of a display of the display of the migration machine 11. Hereafter, actuation of this operation gestalt is explained with reference to these drawings.

[0024] ** In the processing image-processing center 14 performed spontaneously, the image-processing center 14 is always performing processing which shows a flow to drawing 8. First, the image-processing center 14 checks current time of day (step S101). And it judges whether predetermined time has passed (step S102), and when this decision result is "NO", it returns to step S101. If it furthermore explains in full detail, the image-processing center 14 will repeat the processing which begins from step S103 in T1 time interval, will repeat the processing which begins from step S116 in T2 time interval, and will repeat the processing which begins from

step S118 in T3 time interval. At step S102, it judges whether it became the opportunity which performs three kinds of these processings.

[0025] When it progresses to S103 from step S102 last time [<actuation performed with T1 time interval>], or when T 1 hour has passed since initiation of the processing shown in drawing 8 , in the image-processing center 14, processing progresses to step S103 from step S102. In this step S103, the image collection server equipment 346 in the image-processing center 14 acquires new image information with the image acquisition server equipment 329 connected to a local area network 345 or the Internet 10. And image storage server equipment 348 accumulates this image information in that image information are recording section 58 (step S104). Next, if it progresses to step S105, the image count server equipment 347 of the image-processing center 14 will take out this newly accumulated image information and the background image mentioned later from the image information are recording section 58, and will perform an image comparison. And the variation of the characteristic quantity (for example, lightness etc.) of the image between both images is calculated, and it judges whether this variation is over the fixed threshold. And when change of the characteristic quantity of the image exceeding a threshold is checked, at subsequent step S105, it judges whether the characteristic quantity after change continued beyond fixed time amount after the change time of characteristic quantity. And when it is checked after the change time of characteristic quantity that the characteristic quantity after change had continued beyond fixed time amount, image count server equipment 347 judges a purport with change of an image in processing of step S105 at the time. Moreover, image count server equipment 347 presumes the event from which change of such an image may arise from the mode of change of the characteristic quantity of an image at this time. The table which defined many modes of change of the characteristic quantity of an image and the event corresponding to these as an approach for performing such presumption is prepared beforehand, and the approach of searching for the event corresponding to the mode of change of the checked characteristic quantity from this table can be used. For example, when the mode of change of the characteristic quantity of the image that brightness decreases rapidly is checked, the event corresponding to the mode of such change, for example, the event of "****" which the last leaving person left the floor and stopped nobody's requiring, is searched for from a table.

[0026] Next, at step S106, the processing corresponding to the decision result in step S105 is branched. That is, at this step S106, when there is no background image which does not have change of an image in step S105 and which should be case [a background image] or compared and step S101 has change of return and an image, it progresses to step S107.

[0027] Next, if it progresses to step S107, the circumstances of change of the characteristic quantity of an image covering a predetermined frame number before and after including an image's change time will be searched for, and the drawing information on the graph which plotted these circumstances will be generated. Here, it is determined that the size of a graph and a format will agree in the class of migration machine which is a transmission place. The start time of the graph of the characteristic quantity of an image and end time, the event presumed from change of the name of the characteristic quantity of an image and the characteristic quantity of an image, the photography location of an image, a date, and the information for drawing memory etc. are added, the drawing information on a graph is prepared, and it records on the image information are recording section.

[0028] Next, if it progresses to step S108, image count server equipment 347 will perform transform processing for performing the display corresponding to the class of migration machine which is a transmission place to each image of just before [at the change time of the characteristic quantity of an image], and an immediately after, and will record it on the image information are recording section. Here, agent's class may change with classes of migration machine which is a transmission place. Then, the translation table which defined the parameter and its conversion approach of the image which is a candidate for conversion is beforehand prepared for every class of agent. And the class of agent corresponding to a migration machine is searched for, the this agent's conversion approach for conversion corresponding to a class are searched for from this translation table, and an image is changed according to this. The parameters of the image used as the candidate for conversion are the depth (monochrome 2 gradation, pseudo-color 256 gradation, etc.) of a color, and the size (length and width) of an image. A dither method, an error diffusion method, etc. can be used as the conversion approach of the depth of a color. It is better for there to be some from which the aspect ratio of the display screen differs greatly from other usual things depending on the class of migration machine, to have rotated the image 90 degrees so that it might look automatically about those migration machines, and to display. Then, about such a migration machine, the information which directs transform processing which rotates an image 90

degrees is stored in the translation table. And image count server equipment 347 performs 90 rotation processings of an image according to this, when directions of the purport which rotates the image exhibited to the migration machine when exhibiting an image to a certain migration machine 90 degrees are included in the translation table.

[0029] Image count server equipment 347 is processed into the format to which a migration machine can refer to the image after this transform processing after termination of transform processing to an image. As this format, there are GIF (Graphics Interchange Format), BMP (Portable Network Graphics), etc. Whether format [which] is processed changes with classes of migration machine. Therefore, the information which specifies this format is also defined as the translation table for every migration machine, and this will be referred to in the case of processing of an image.

[0030] Next, if it progresses to step S109, the graph recorded on the image information are recording section and the image after conversion will be transmitted to image public presentation server equipment (step S109). It enables this to read a graph and an image through the Internet.

[0031] next, a link information [as opposed to / when it progresses to step S110 / a graph and an image] and the presumed place -- a view -- the menu document which wrote in the contents of change etc. is exhibited through the Internet with the means of transmitting to image public presentation server equipment. A demand is equipped with this menu document from a migration machine, it lets a radio communication equipment, a radio network, and communication link repeating installation pass, and is beforehand processed into the gestalt which can be referred to from a migration machine. As a gestalt of this menu document, there are C-HTML (Compact Hyper Text Markup Language), HDML (Handheld Device Markup Language), etc. Whether which gestalt is processed changes with classes of migration machine.

[0032] Next, if it progresses to step S111, the electronic mail which makes the text URL (Uniform Resource Locators) which is a link information over a menu document will be created, and it will transmit to a migration machine by the electronic mail transmitting section.

[0033] next -- if it progresses to step S112 -- the place of other locations -- it judges whether it is necessary to display a view etc. or not. and the place of other locations -- when a view etc. does not need to be displayed, it progresses to step S115. the place of other locations on the other hand -- if the display of a view etc. is required, like step S108, required transform processing will be performed to the image (step S113), the image concerned will be exhibited through the Internet with the means of transmitting to image public presentation server equipment (step S114), and it will progress to step S115. Again, a menu is re-created and there are an approach of embedding the link information over this image in the menu document in step S110 as an approach for providing for a user beforehand, for example, a method of performing open processing of a menu document, etc.

[0034] Next, if it progresses to step S115, it judges whether the migration machine which should notify change of an image to others remains, and when such a migration machine remains, processing of steps S107-S114 (S107-S111) will be performed about the migration machine. On the other hand, when such a migration machine does not remain, it returns to step S101.

[0035] If a migration machine receives the electronic mail which makes the text URL which is a link information over a menu document, a user can access the menu document memorized by image public presentation server equipment using the URL, can receive the menu document with a migration machine, and can make it display on the display screen. moreover, the user of a migration machine -- for example, the drawing information and the open image of a graph which were memorized by image public presentation server equipment can be accessed using URL which is a link information to the open image embedded in this menu document, each can be received, and it can be made to display on the display screen of a migration machine

[0036] Drawing 11 (a) illustrates the graph of the circumstances of the characteristic quantity (the example of illustration brightness) of the image which did in this way and was displayed on the display screen of a migration machine. In this example, since the brightness of an image is decreasing rapidly, with image count server equipment 347, the last leaving person leaves the floor which is ****, i.e., the candidate for photography, presumption of generating of the event of nobody's having stopped being is performed, and super imposing of the message showing that presumed result is carried out into the image from the mode of change of this characteristic quantity. For this reason, that message "as [be / it / ****]" is displayed on the display screen of a migration machine.

[0037] Moreover, a migration machine receives the image of the just before at the change time of the characteristic quantity of an image besides such a graph, and the next image. A user can display these images

by scrolling the display screen of a migration machine.

[0038] Drawing 11 (b) is the image of the just before at the change time of the characteristic quantity of the image displayed by doing in this way. In this example, since the event presumed from change of the characteristic quantity of an image is "****", super imposing of the message "the image in front of ****" is carried out at the image. Moreover, drawing 11 (c) is the image of the immediately after at the change time of the characteristic quantity of an image. Super imposing of the message "the image after ****" is carried out at this image.

[0039] When it progresses to S116 from step S102 last time [<actuation performed with T2 time interval>], or when T 2 hours have passed since initiation of the processing shown in drawing 8 , as for image count server equipment 347, processing is advanced to step S116 from step S102.

[0040] At this step S116, the image for the past predetermined frame number recorded on the image information are recording section is taken out, and a background image is updated by those image groups. Here, when the parameter of the camera whose various idea **** are image acquisition means does not change as how to calculate each pixel value of a background image, the following approaches can be considered, for example. Namely, for every pixel location of a background image, the median (median) or the average value (average) of a pixel value of all pixels corresponding to the pixel location concerned in an image group is calculated, and let the result be the pixel value of the pixel of the background image corresponding to the pixel location concerned.

[0041] Next, it progresses to step S117 and the background image for which it asked in step S116 is recorded on the image information are recording section. And processing of image count server equipment 347 returns to step S101.

[0042] When it progresses to S118 from step S102 last time [<actuation performed with T3 time interval>], or when T3 time amount has passed since initiation of the processing shown in drawing 8 , as for the image count server equipment 347 of the image-processing center 14, processing is advanced to step S118 from step S102.

[0043] First, in step S118, image count server equipment 34 inspects record of the time stamp of the directory which releases the time stamp or information on a open image and a open document by which current public presentation is carried out with image public presentation server equipment 330, or open time of day.

[0044] Next, at step S119, after this comparison exhibits the elapsed time from the time of day corresponding to these time stamps, or open time of day to current time as compared with predetermined time, it judges whether there are the open image and the open document which have passed beyond predetermined time, and information. And when there is the corresponding open image, the open document, or information, the elimination is required of image public presentation server equipment 347 (step S120). Thus, the open image, the open document, or information that it passed beyond predetermined time is eliminated from public presentation for *(ing) to a deployment of a resource, while reducing the probability for such public information to be accessed by the third person and securing fixed security.

[0045] Moreover, in step S119, when there is nothing corresponding, a open image update process is performed (step S121). In addition, in order to avoid duplication of explanation, the concrete contents of this open image update process are collectively explained, in case the contents of processing of the image-processing center 14 corresponding to the image demand from a migration machine side are explained.

[0046] Next, if it performs a open image update process, image count server equipment 347 will perform the updating, when it judges whether the image (since it is opened to the public image within predetermined time) which should otherwise be updated remains (step S122) and there are some corresponding (step S121). The image-processing center 14 is the detail of the processing which the above performs spontaneously.

[0047] ** The image-processing center 14 of operation according to the image demand from the migration machine 11 is always performing processing which shows a flow to drawing 9 in parallel to this besides processing of above-shown drawing 8 . In this operation gestalt, the user of a migration machine can send the electronic mail which makes an image demand the text to this image-processing center 14.

[0048] The contents of the electronic mail are judged that image count server equipment 347 receives an electronic mail from a migration machine (step S202). (step S201) And when the electronic mail does not include the image demand, or in not being an electronic mail by the user of the migration machine limited beforehand, or the root of that normal, it returns to step S201 and waits for the following electronic mail. When it is an electronic mail by the root of the normal from the user of the migration machine with which the received electronic mail was limited beforehand on the other hand, including an image demand, as for image count server

equipment 347, steps S203-S205 are performed.

[0049] First, at step S203, the menu document which wrote in the link information over the image which is due to be opened to the Internet the menu of the image which can be displayed, and from now on etc. is drawn up, and a menu document is exhibited through the Internet with the means of transmitting to image public presentation server equipment 330. Like step S110, a demand is equipped with this menu document from a migration machine, and it is beforehand processed into the gestalt which can be referred to from a migration machine.

[0050] Next, at step S204, the electronic mail which makes the text URL which is a link information to the open menu document is created, and it transmits to a migration machine by the electronic mail transmitting section.

[0051] Next, at step S205, the open image update process which shows a flow to drawing 10 is performed. First, it judges whether the new image used as the candidate for updating is acquired by the step S103 grade of point ** immediately before (step S301), and immediately before, in being acquisition ending, it progresses to step S304. On the other hand, immediately before, in not being acquisition ending, with an image acquisition means, an image is acquired newly (step S302), the image is recorded on the image information are recording section (step S303), and it progresses to step S304.

[0052] Next, if it progresses to step S304, in order to perform the display corresponding to the class of migration machine like step S108 of point **, an image will be changed, and it will record on the image information are recording section.

[0053] Next, if it progresses to step S305, the image after the conversion recorded on the image storage section will be opened to the Internet with the means of transmitting to image public presentation server equipment. Here, URL to the image which is a open object is in agreement with the link information included in the menu document exhibited in step S203.

[0054] Steps S304 and S305 may carry out multiple-times activation, changing the contents of image transformation. For example, the ordinary image for photography is created and exhibited first, and then this is changed and opened to a line drawing image. And in the 2nd activation which exhibits a line drawing image, it updates in the menu document which also includes the link information to a line drawing image in coincidence, and reopens to the public. In actuation of this reopening to the public, overwrite elimination of the original menu document is carried out.

[0055] Next, at step S306, the newly recorded image information and the background image mentioned above are taken out from the image information are recording section, and an image comparison is performed. And the variation of the characteristic quantity of the image between both images is calculated, and it judges whether this variation is over the fixed threshold. And when change of the characteristic quantity of the image exceeding a threshold is checked, at subsequent step S306, it judges whether the characteristic quantity after change continued beyond fixed time amount after the change time of characteristic quantity. And when it is checked after the change time of characteristic quantity that the characteristic quantity after change had continued beyond fixed time amount, image count server equipment 347 judges a purport with change of an image in processing of step S306 at the time.

[0056] Next, at step S307, branching corresponding to the decision result in step S306 is performed. That is, when change of an image is accepted in step S306, it progresses to step S308, and when change of an image is not accepted, a open image update process is ended.

[0057] Next, if it progresses to step S308, it asks for a part with change of an image, and an image will be changed and it will record on the image information are recording section so that the enlarged display of the part can be carried out in the migration machine which is a transmission place. Moreover, an image with the guidance information on the expansion image of a changeful part is created, and it records on the image information are recording section.

[0058] Next, if it progresses to step S309, the image recorded on the image information are recording section will be opened to the Internet with the means of transmitting to image public presentation server equipment.

[0059] Next, if it progresses to step S310, the menu document which carried out open processing in step S203 will be updated. That is, a menu document is updated by contents including the link information to an image with the link information and guidance information on the image to which the changeful part was expanded, and it reopens to them. The user of a migration machine can receive a desired image from image public presentation server equipment, and can make it display on the display screen of a migration machine using the link information included in this reexhibited menu document.

[0060] Drawing 12 (a) - (d) shows the example of a display in this case. First, drawing 12 (a) is an image for [at

the time of being about change of the characteristic quantity of an image] photography. Drawing 12 (b) is the line drawing image generated from this image. Although a figure "1" and "2" are contained in this line drawing image, it is shown that these figures had change of the characteristic quantity of an image in that location respectively. It decided to place these figures into a line drawing image because a figure was easily found rather than it places into the usual image. In addition, the location which was changeful without using such a line drawing image may be shown. For example, although the data size of an image becomes large a little, the location which was changeful by using graphics formats, such as animation GIF which can be displayed by turns, in the usual image and the image which placed the figure into the usual image may be shown. Drawing 12 (c) is an image including the guidance information on the expansion image corresponding to the location of a figure "1", and the expansion image corresponding to the location of a figure "2." In this image, the link information over each expansion image is embedded. A user can display on the display screen of a migration machine each image of drawing 12 (a) - (c) explained above by scrolling the display screen. And in the display condition of drawing 12 (b), pressing the key of the figure corresponding to a desired expansion image, or by choosing a desired expansion image by cursor actuation in the display condition of drawing 12 (c), a desired expansion image can be read from image public presentation server equipment, it can receive, and an expansion image can be displayed on the display screen of a migration machine a figure "1" or among "2." Drawing 12 (d) shows the expansion image of the location of the figure "1" displayed by doing in this way.

[0061] In the image-processing center, after processing of step S310 is completed, a open image update process is ended and it returns to the processing shown in drawing 9 . It is the detail of the actuation which the above provides with an image from the image-processing center 14 according to the image demand from the migration machine 11.

[0062] (3) Various kinds of following modifications can be considered in the operation gestalt explained beyond the modification of an operation gestalt.

[0063] ** As shown in modification 1 drawing 13 , the image collection server equipment, image count server equipment, and image storage server equipment by the side of an image-processing center may be unified, and image collection and count / are recording server equipment may be constituted. In this case, since each of image collection server equipment, image count server equipment, and image storage server equipment can share the image information are recording section 58 which it had separately, the whole equipment can be made simple.

[0064] ** Although the image-processing center was considered as the configuration which became independent of a mobil radio communication network with the modification 2 above-mentioned implementation gestalt, as shown in drawing 14 , the component of an image-processing center may be incorporated into a mobil radio communication network 310, and simplification of the whole system may be attained. In this case, although communication link repeating installation may be put on each of the radio network 313 and a local area network 345, as shown in drawing 14 , it becomes the configuration which shares the communication link repeating installation 314, then a easier system. Moreover, with the above-mentioned operation gestalt, although it was made to carry out direct continuation of the image public presentation server equipment 330 to the Internet 10, in drawing 14 , the defense measure on appropriate security may be taken against the communication link repeating installation 314, and image public presentation server equipment 330 may be connected to a local area network 345. In addition, image public presentation server equipment 330 may be connected to the communication link repeating installation 314 instead of a local area network 345.

[0065] B. the place whose 2nd operation gestalt drawing 15 is the 2nd operation gestalt of this invention -- a view -- it is the block diagram showing the configuration of monitoring system. This operation gestalt transposes the image-processing center in the operation gestalt of the above 1st to one apparatus image server equipment 24. This one apparatus image server equipment 24 accumulates the image of the photographic subject 23 acquired with the external image acquisition means 29 or the built-in image acquisition means, and provides the migration machine 11 with it through a radio communications system 12. Drawing 16 is the block diagram showing the configuration of one apparatus image server equipment 24. Since it is the same as what was already explained in the 1st operation gestalt about each component of this one apparatus image server equipment 24, the same sign as the 1st operation gestalt is used, and that explanation is omitted.

[0066]

[Effect of the Invention] the place which starts this invention as explained above -- a view -- according to monitoring system -- a place -- with the image information are recording section which accumulates the image information obtained by photoing a view An image transformation means to perform transform processing

corresponding to the migration machine which is the offer place of the image information concerned defined beforehand to the image information accumulated in said image information are recording section, Since the image public presentation means which exhibits image information by storing the image information to which transform processing was performed from said migration machine by said image transformation means to the accessible storage means through the network was established the class of migration machine -- not depending -- the place which can be displayed in an always suitable mode -- it is effective in the ability to offer the image of a view.

[Translation done.]

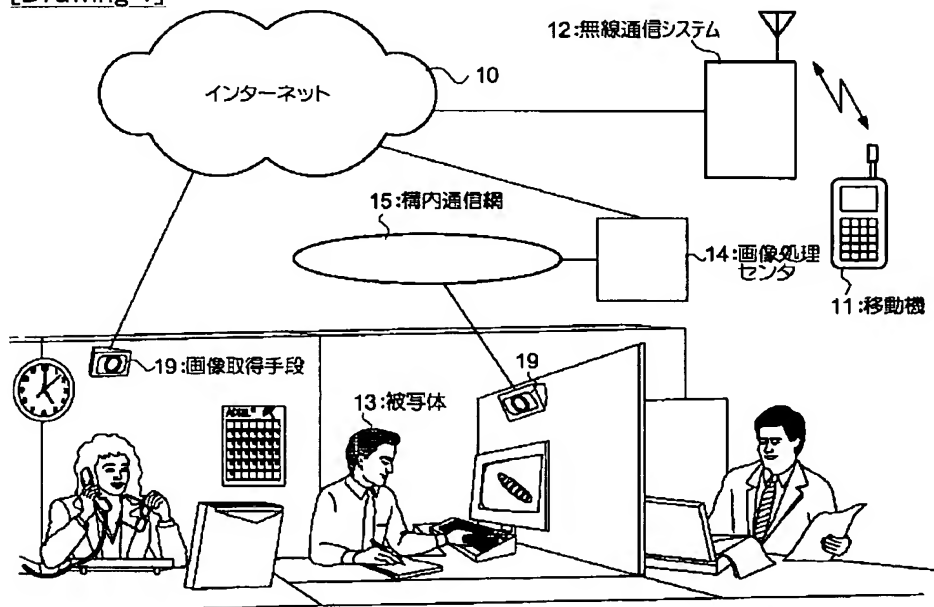
* NOTICES *

JPO and NCIP are not responsible for any damages caused by the use of this translation.

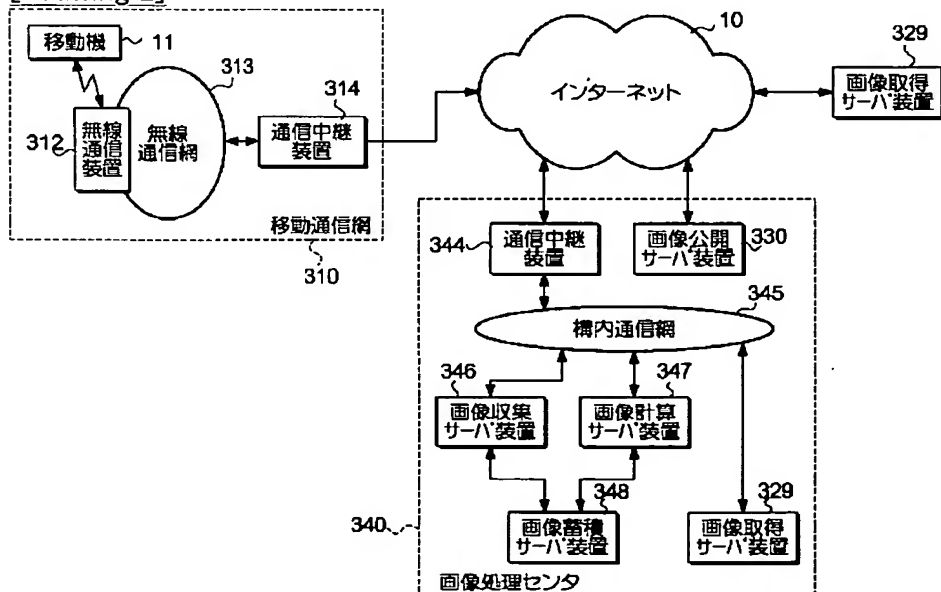
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DRAWINGS

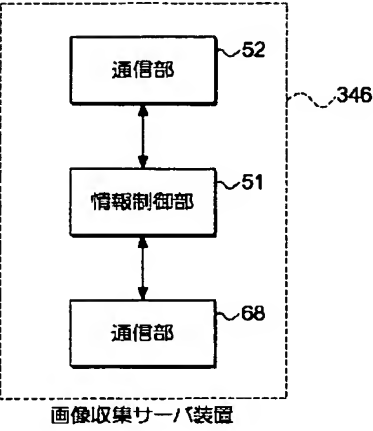
[Drawing 1]



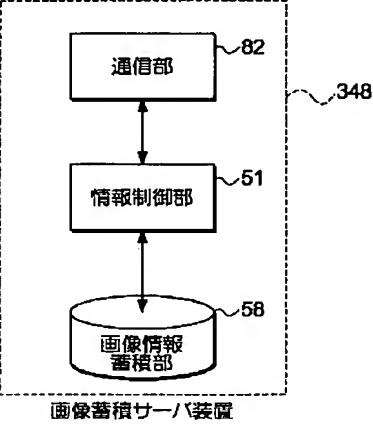
[Drawing 2]



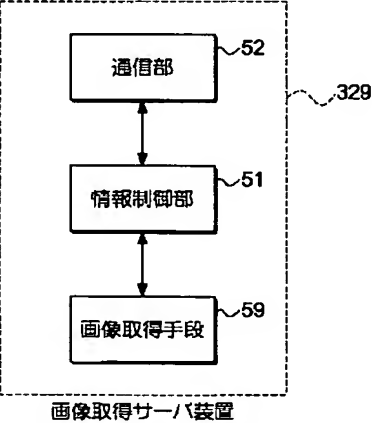
[Drawing 3]



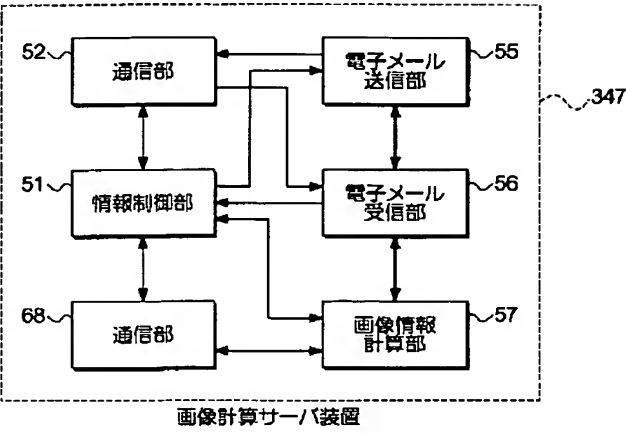
[Drawing 5]



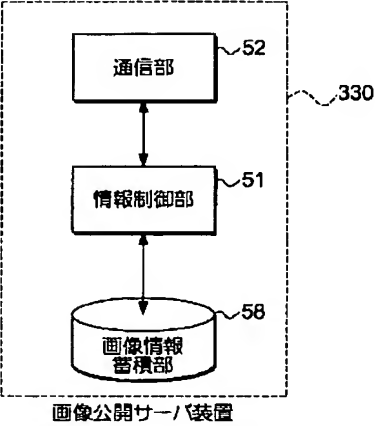
[Drawing 6]



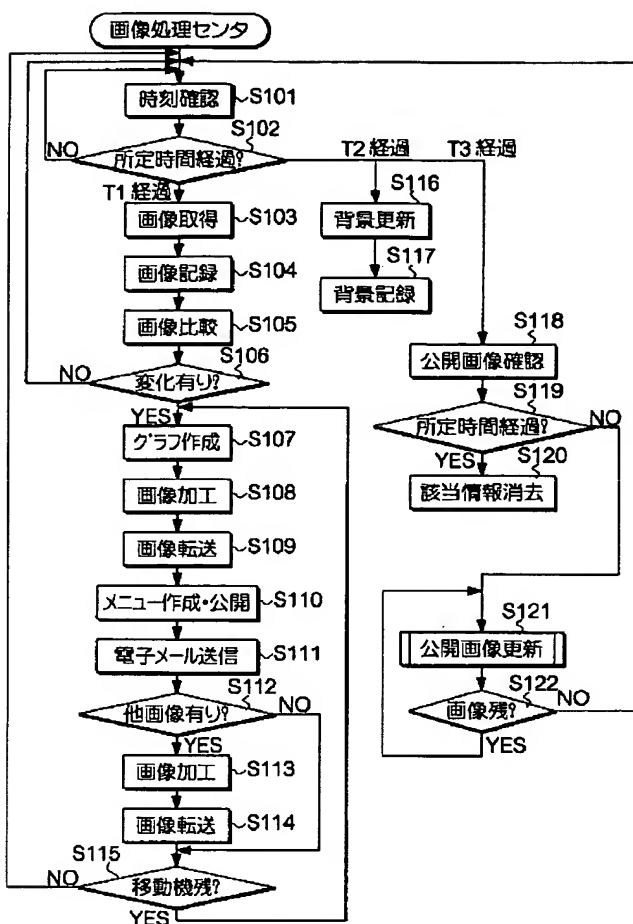
[Drawing 4]



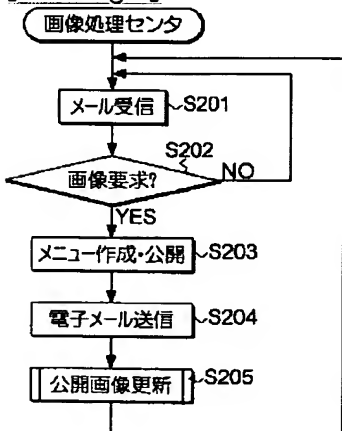
[Drawing 7]



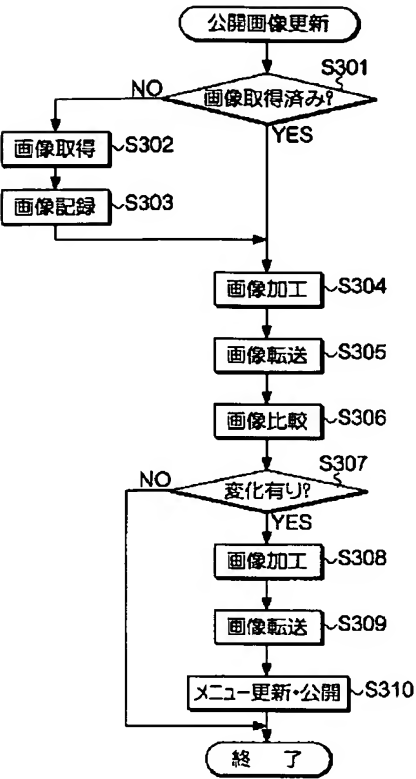
[Drawing 8]



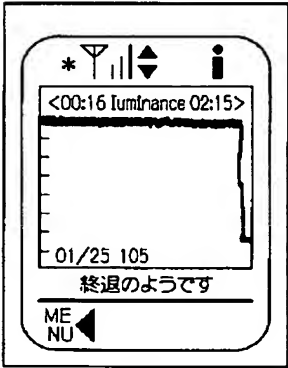
[Drawing 9]



[Drawing 10]



[Drawing 11]
(a)



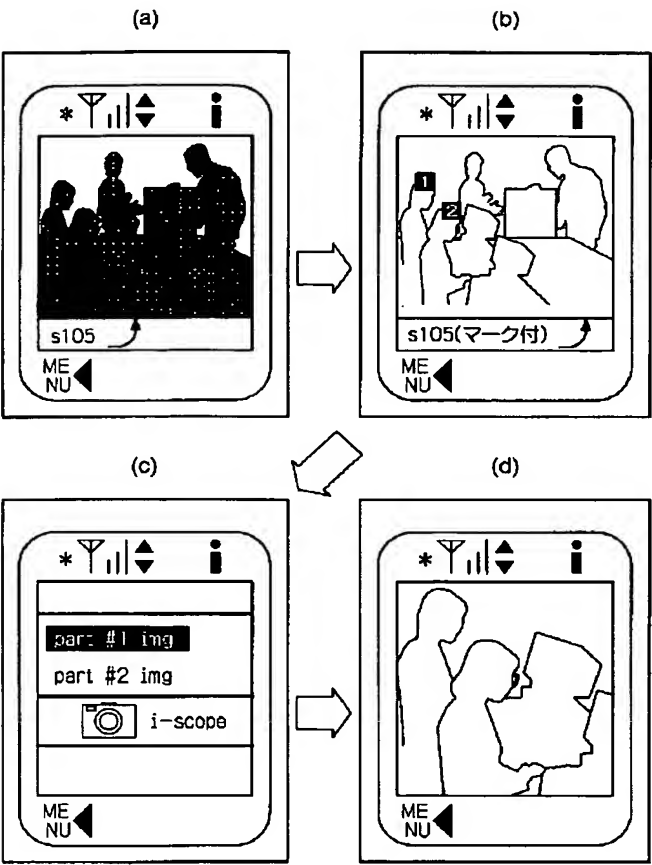
(b)



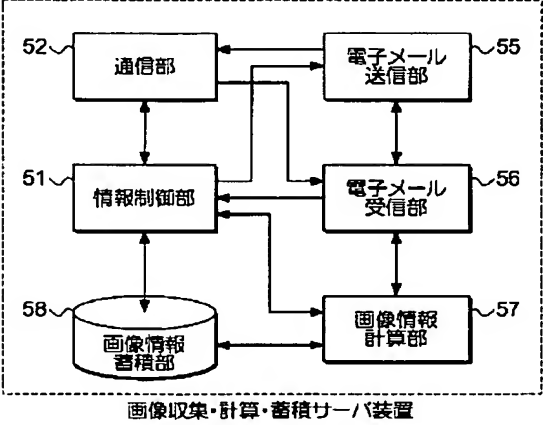
(c)



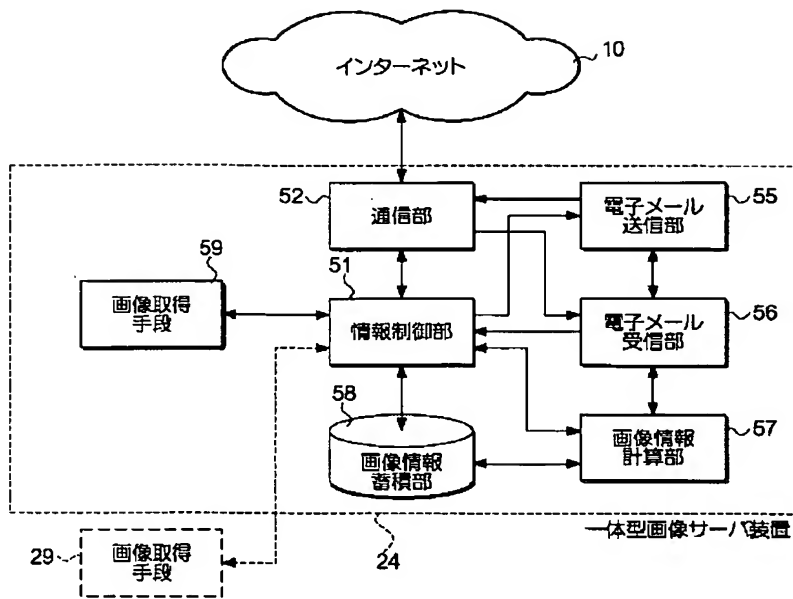
[Drawing 12]



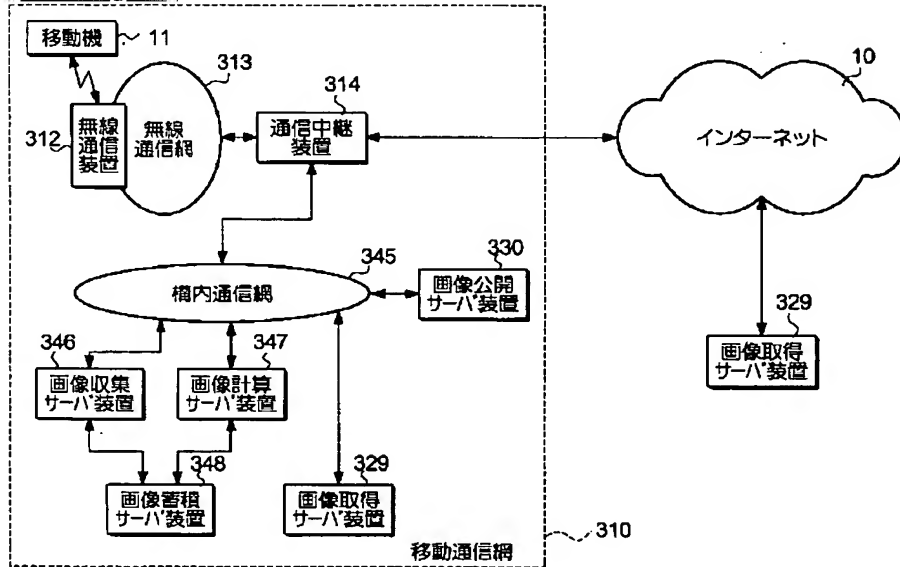
[Drawing 13]



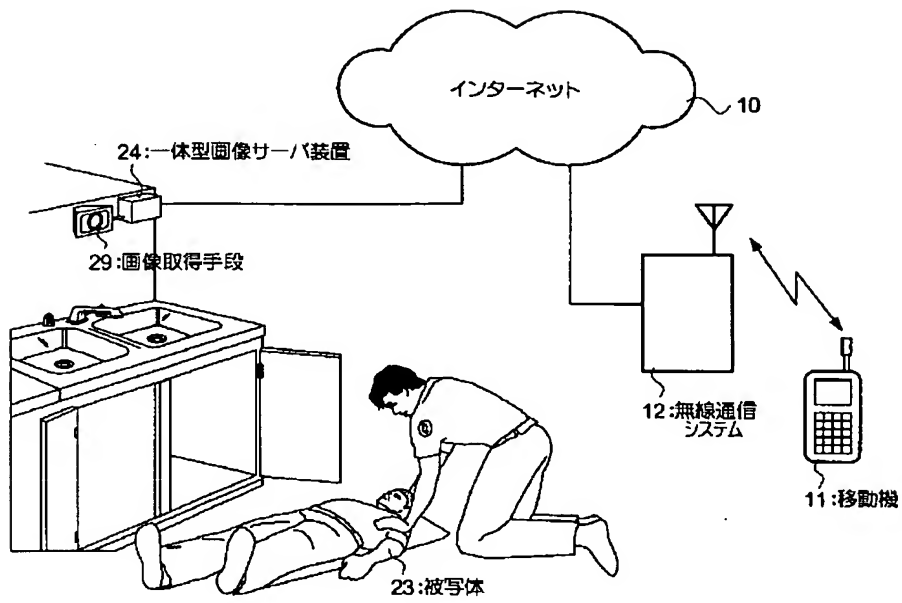
[Drawing 16]



[Drawing 14]



[Drawing 15]



[Translation done.]